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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,711	12/30/2003	Martin Brox	1890-0030	2105

7590 01/26/2005
Maginot, Moore & Beck
Bank One Tower
Suite 3000
111 Monument Circle
Indianapolis, IN 46204

EXAMINER

LUU, AN T

ART UNIT PAPER NUMBER

2816

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/748,711

Applicant(s)

BROX ET AL.

Examiner

An T. Luu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-26 and 28 is/are rejected.
- 7) ☒ Claim(s) 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12-30-03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 18, 23 and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As to claim 18, the limitations “a third delay element” and “a second external clock frequency” are not disclosed in the specification and drawings.

As to claim 23, the limitation “a predetermined number of frequency” is not disclosed in the specification and drawings.

As to claim 24, it has the same problem as that of claim 22 as noted above.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 18, 23 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The limitations “a third delay element” and “a second external clock frequency”, claim 18, and “a predetermined number of frequency”, claim 23, appear to be misdescriptive since they can't be determined by drawings.

Claim 24 is rejected for being dependent on the rejected claim as noted above.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 15-17, 22, 25, 26 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by the Li et al reference (U.S. Patent 6,208,183).

Li et al discloses in figure 8 an apparatus comprising a delay device comprising a first delay element (320, 322) and a second delay element (314), wherein the first delay element is configured to generate a first output (CLKout) responsive to a control signal (VLF) and a first input (output of 318), and wherein the second delay element is configured to generate the first input responsive to an externally generated clock signal (CLKref) and a set signal (outputs of 330) related to the frequency of the externally generated clock signal, a feedback device (308) operably connected to the first delay element and configured to generate a time delayed first output (CLK*ref and col.11, line 49), a phase difference detection device 302 configured to generate signal responsive to the phase difference between the time delayed first output and the externally generated clock signal, and a frequency detection unit 332 configured to generate the

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set signal responsive to the frequency of the externally generated clock signal as required by claim 15.

As to claim 16, figure 8 shows a filter 330 operably connected to the phase detector and the first delay element.

As to claim 17, col. 6, lines 55-65, discloses the output of the feedback device being determined by a receiver time delay (phase delay) and a driver time delay (K_{del}).

As to claim 22, it is rejected for reciting a method/step derived from the apparatus of claim 15 that is rejected as noted above.

As to claim 25, gating pulse 212 is seen as resetting the delay control apparatus for selecting the external clock signal CLKref.

As to claim 26, figure 8 shows a first frequency variable delay element 320 responsive to control signals VLF related to a first frequency (CLKref) and a second frequency (CLKout) and not responsive to control signals related to a third frequency (output of 314), and providing a second frequency variable delay element 314 responsive to control signals (output of 336) related to the second frequency and the third frequency and not responsive to control signals related to the first frequency.

As to claim 28, it is rejected for reciting a method/step derived from the apparatus of claim 16 that is rejected as noted above.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Li et al reference (U.S. Patent 6,208,183) in view of the Lee reference (U.S. Patent 6,373,913).

Li et al discloses all the claimed invention (see the rejection under 102 noted above) except for teaching the delay device comprising a controllably variable capacitor element as required by claim 19.

Lee discloses in figure 6 a delay device comprising a controllably variable capacitor element 145 as required by the claim.

It would have been obvious to one skilled in the art at the time the invention was made to incorporate the teaching of Lee into that of Li et al since Li et al discloses that his invention is not limited by the particular embodiments or implementations described in his specification.

A skilled artisan in the art would be motivated to implement Lee's teaching since his delay line has a shorter the locking time compared to the conventional case.

9. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Li et al reference (U.S. Patent 6,208,183) in view of the Heightley reference (U.S. Patent 6,469,559).

Li et al discloses all the claimed invention (see the rejection under 102 noted above) except for teaching the delay device comprising a controllably variable current inverter and inverter in chain as required by claims 20 and 21.

Heightley discloses in figures 2 and 4 a delay line comprising inverters in chain wherein each inverter is a controllable variable current inverter as required by the claims.

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It would have been obvious to one skilled in the art at the time the invention was made to incorporate the teaching of Heightley into that of Li et al since Li et al discloses that his invention is not limited by the particular embodiments or implementations described in his specification.

A skilled artisan in the art would be motivated to implement Heightley's teaching since his delay line provides the accurate preservation of the width of pulses propagated through relatively long delay lines.

Allowable Subject Matter

10. Claim 27 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to disclose an apparatus and method thereof comprising element being configured or functioned as recited in claim. Specifically, none of the prior art teaches or fairly suggests, among other things, the limitation "*time delaying the further delayed external clock signal by an amount of time equal to the receiver time delay plus the driver time delay*" as recited in claim 27.

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Conclusion

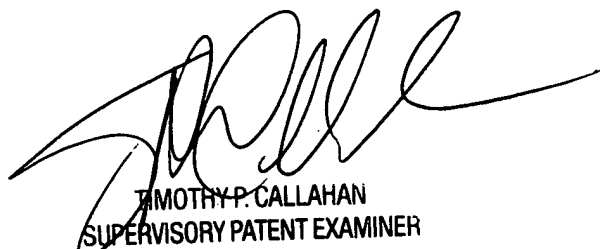
12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to An T. Luu whose telephone number is 571-272-1746. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

An T. Luu
1-13-05 *ATL*


TIMOTHY P. CALLAHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800